Installation Manual

Version 1

Clymac

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PART No.Z-IM1

Clymac

Clymac Installation Manual

The Clymac ZM2 & ZP3 analogue addressable fire alarm systems are both flexible and easy to install. This pocket sized installation manual is designed to provide quick reference information at each stage of your installation.

The manual offers practical system installation guidance using an easy to follow format. It deals with the various system architectures using colour coding to identify the type of connection followed by individual installation information for each product.

More detailed guidance is given separately for our specialist products, interfacing arrangements and cable types to ensure they are fully explained.

Please make use of our Installation Helpline if you require any further support. Your call to the helpline goes directly through to our team of technical support engineers who are trained to provide an instant response.

Clymac

LPCB LPCB BFPSA British Fire Protection Systems Association

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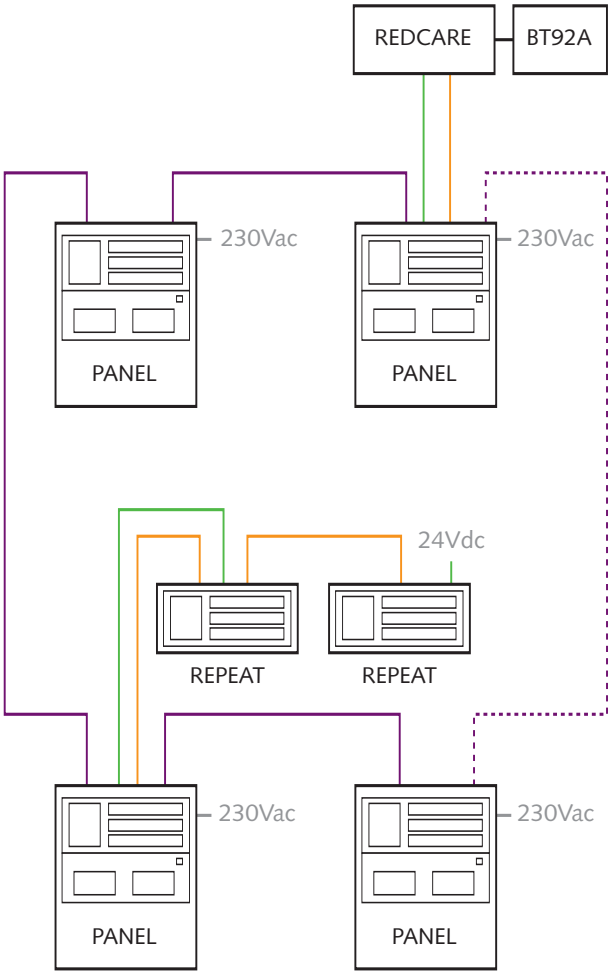
1 Wiring guide

- Networks and Redcare
- Loop devices
- 24Vdc alarm devices
- Isolators
- Interfacing
- Complying with BS 5839 Pt 1
- Beam detection
- Intrinsically safe equipment
- Radio equipment
- Duct detection
- Approved cables



ZP3 standard networks (ZP3-NW1)

- Enhanced cable (see page at the end of this section)
- 600 - 1000m total depending on cable type
- Spurs, star connections, radials or combinations allowed
- Represented by solid purple line

ZP3 secure networks (ZP3-NW1 and ZP3-NLM)

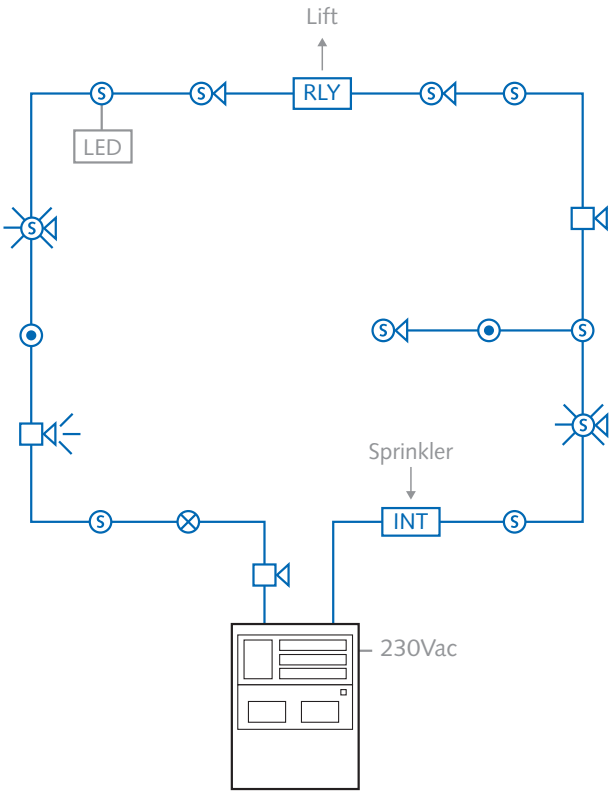
- Enhanced or standard cable (see page at the end of this section)
- 600 - 1000m between panels depending on cable type
- Ring connections only
- Represented by solid and dotted purple line

Repeat panels (ZP3-RDU/ZM2-RDU)

- 24Vdc via main panel or PSU, represented by green lines
- Data cable from main panel, represented by orange lines
- Star, radial or spur connections allowed
- Enhanced or standard cable (see page at the end of this section)
- 4-core cable should not be used

Redcare (ZREDCARE...)

- 24Vdc via main panel or PSU, represented by green line
- Two core cable for each signal, represented by orange line
- BT RedCare BT92A block (installed by BT) local to RedCare box
- Analogue lines not exceeding 3 REN can be used
- Lines cannot be through PABX systems
- Lines that use data cannot be used
- Allow 3 weeks once all information is provided to Clymac



Key

- Short circuit isolator
- Addressable manual call point
- Addressable sounder
- Addressable sensor and sounder beacon
- Addressable sounder and beacon
- Addressable sensor
- Addressable sensor and sounder
- Addressable relay
- Addressable interface

Addressable detection loops

- ZP3 is available with 1, 2 or 4 loops, ZM2 with 1 or 2 loops
- All devices colour coded blue in further sections can be connected to these circuits
- Cable should be Standard or Enhanced (see page at the end of this section)
- Spurs off the loop are possible without special bases/devices, subject to agreement with all parties
- Basic rules for loop design;

1 127 address maximum, 1 device = 1 address (combined sensor/sounder = 2 addresses)

2 1km or 2km maximum (loop powered sounders = 1km) Based on 1.5mm 2 core cable

3 Continuous screen preferably not connected to building earth

4 Use of 4 core approved by Clymac help line

5 300mm separation from high voltage cables

6 Remote LED's can not be connected to sounder bases

7 Maximum of 16 isolators per loop ZP3, 11 per loop ZM2

8 ZM2 is not compatible with;

A) Radio equipment

B) Intrinsically safe equipment

C) Multi sensors (Z832)

D) Conventional zone/detector interface

9 Addressable sounders;

A) Sounder bases - 60 number per loop; or

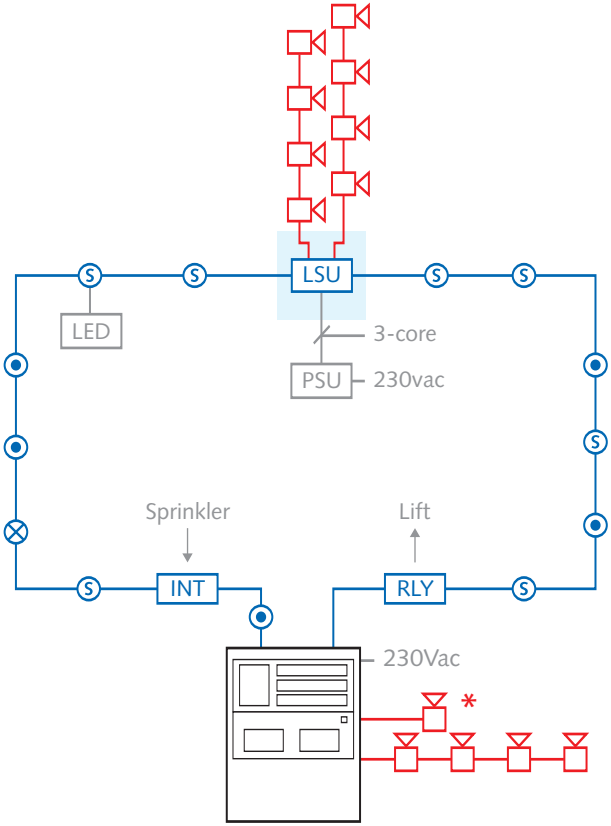
B) Sounder/beacon bases - 40 number per loop; or

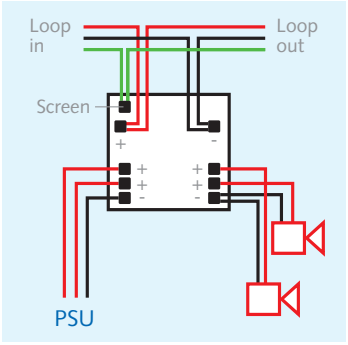
C) Horn sounders - 40 number per loop; or

D) Horn sounder/beacons - 25 number per loop; or

E) Beacons - 60 number per loop

24Vdc alarm circuit schematic





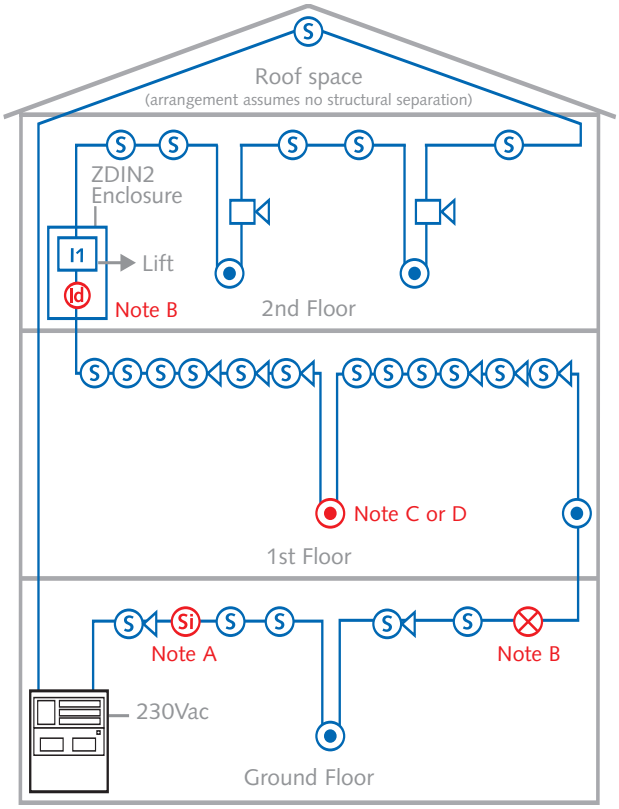
24Vdc Conventional alarm circuits

- ZP3 available with 4 circuits, ZM2 with 2 circuits
- Further circuits added by using Z752 interface or 8 way auxiliary boards (ZP3 only)
- All devices colour coded red in further sections can be connected to these circuits
- Enhanced or standard cable (see page at end of this section)
- Strictly radial connection only, no spurs
- End of line resistor fitted in last device on each circuit

Key	
Short circuit isolator	Addressable sensor
Addressable manual call point	Addressable relay
24Vdc sounder	Addressable interface
Addressable sounder interface	

* Sounder closest to control panel to be installed on dedicated circuit

Isolator schematic



Short circuit isolators (Z760, Z60D or Z7-IB)

- Fitted to the loops (blue circuits)
- Maximum 16 per loop ZP3, maximum 11 per loop ZM2
- Do not take an address
- Not to be fitted to spurs, loop only
- Ideally not concealed from view
- Distributed as shown;

  A) Sounder nearest the panel

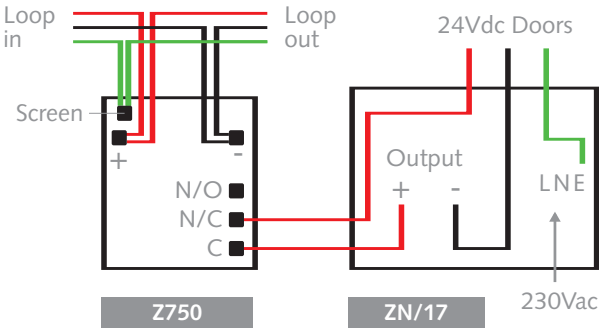
  B) Each change of floor within 5 devices

  C) Every 32 trigger devices

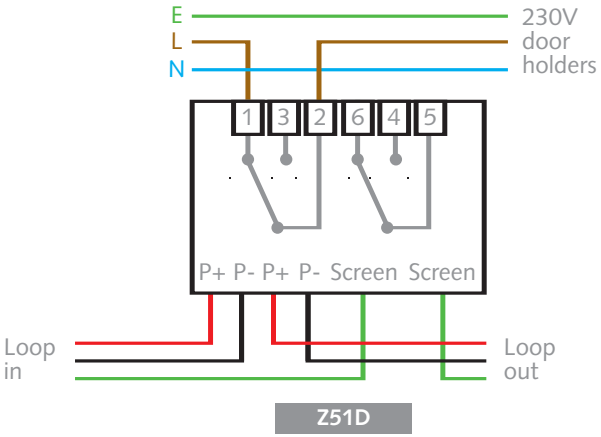
  D) Every 2000msq

Key	
Short circuit isolator	Addressable manual call point
Combined sensor and isolator	DIN mounted output contact
DIN mounted isolator	Addressable manual call point c/w isolator
Addressable sensor and sounder	Addressable sounder
Addressable sensor	

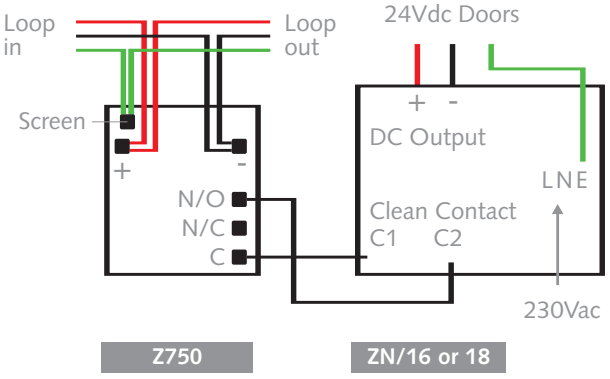
24Vdc door holders



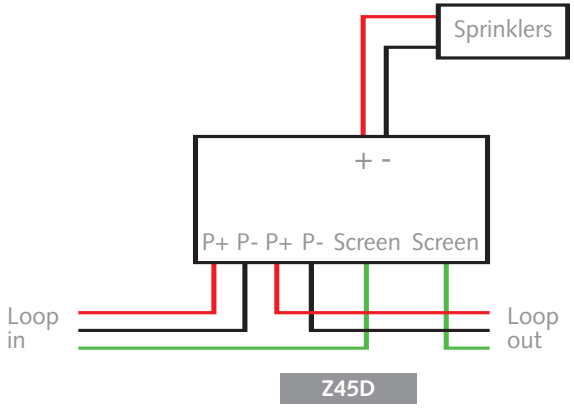
230Vac door holders



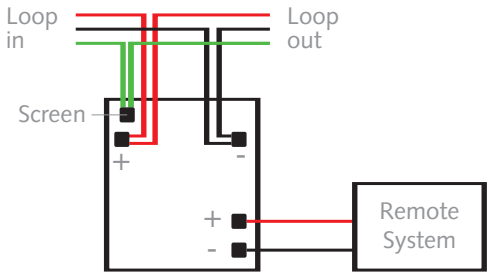
24Vdc door holders



Input monitoring - eg sprinklers

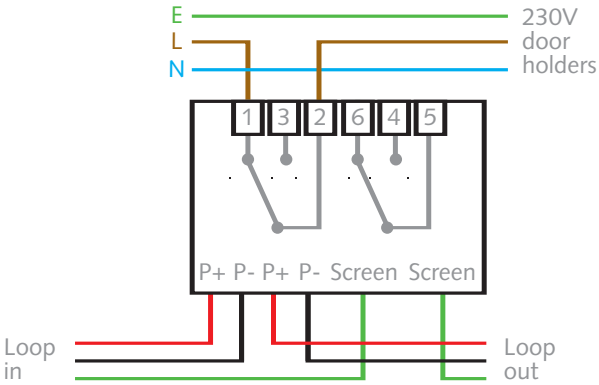


Input monitoring
eg fire/fault from remote system



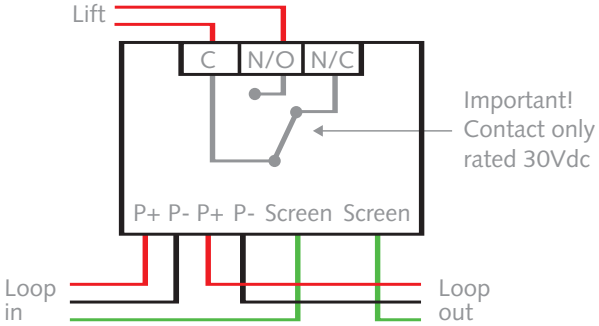
Z740

Output contact - eg Gas valve (230Vac)



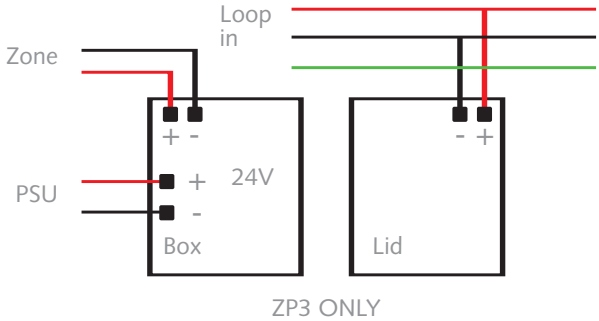
Z51D

Output contact - eg lift

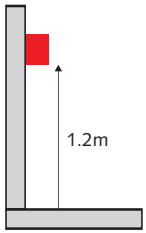


Z50D

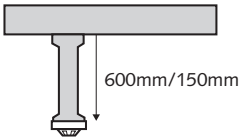
Conventional zone



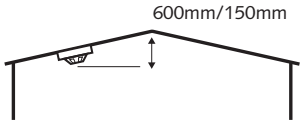
Z570



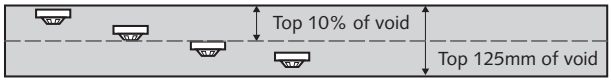
MCP's at least 15mm proud of wall and 1200mm above floor.



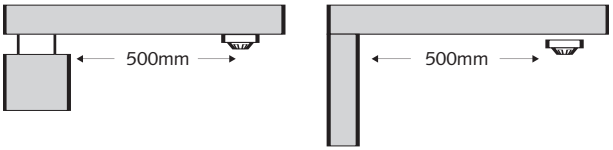
Smoke/beam detector distance from ceiling = 25mm to 600mm.



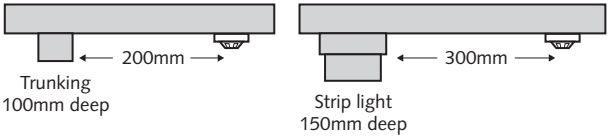
Heat detector distance from ceiling = 25mm to 150mm.



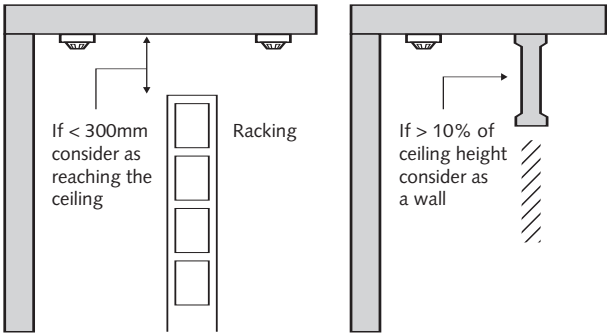
Detectors in unventilated voids to be mounted in the top 10% or 125mm, whichever is greatest.



Detectors should not be mounted within 500mm of obstructions such as walls, beams or ductwork greater than 250mm in depth.



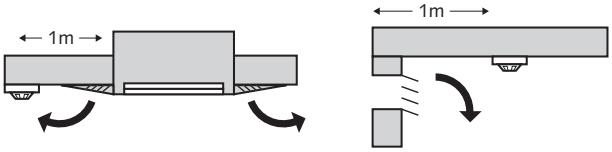
Detectors should be mounted twice the depth of any obstructions such as beams, ductwork or light fittings less than 250mm in depth.



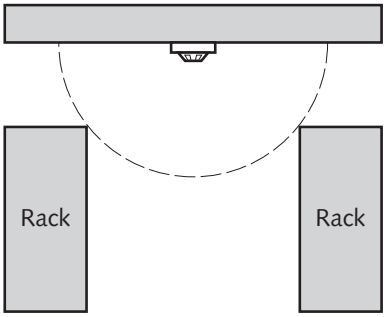
Partitions or racks within 300mm of ceiling to be treated as full height.

Structural beams greater than 10% of ceiling height to be treated as wall.

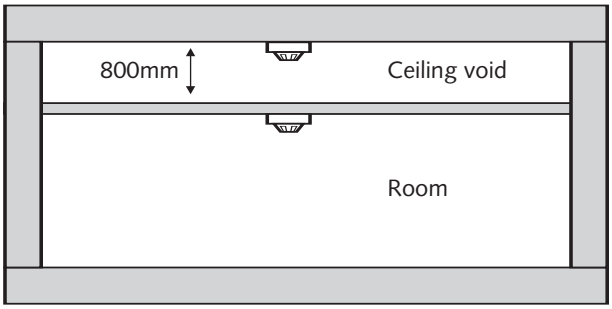
Applies to point detection and beam detection.



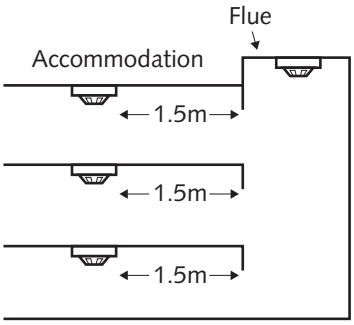
Detectors should be mounted minimum of 1 metre away from a forced ventilation system.



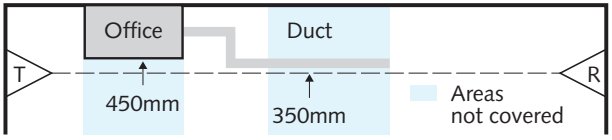
500mm clear space to be maintained below each detector.



Any area covered by automatic detection that contains a horizontal void of 800mm or more in height, automatic fire detection should also be provided in the void.



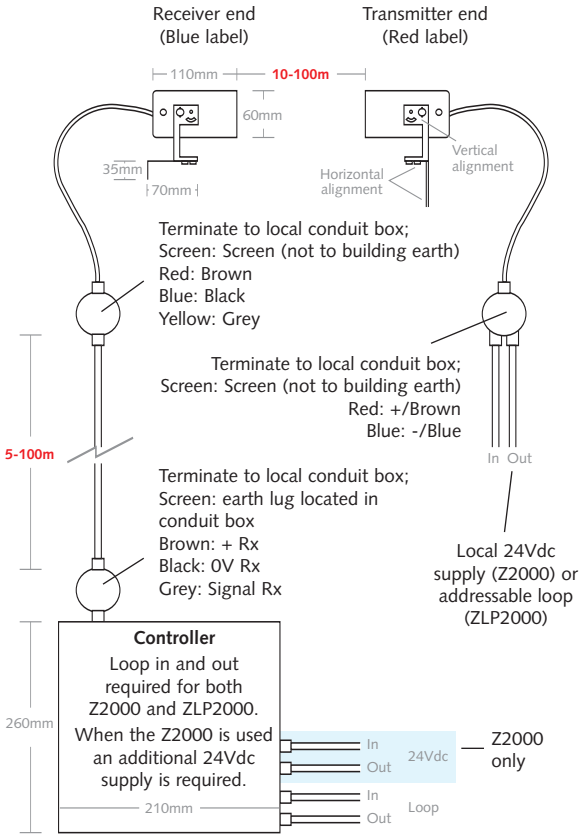
A detector should be mounted within 1.5m away from a vertical shaft such as a lift at each level. A detector should also be fitted at the top of the shaft (Excludes L4, L5 & P2).



Beams not to run closer than 500mm to any wall, partition or obstruction.

Beam detection

Addressable and conventional versions of the beam detector are available. The following notes describe the connections for both.

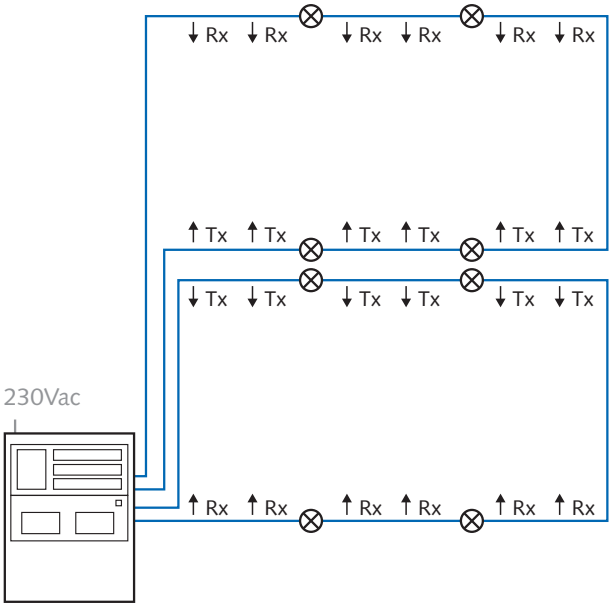


Internal connections

Connection	Loop +	Loop -	Loop screen	24V +	24V -	Earth
Conventional Z2000*	Z45D	Z45D	Z45D	Supply +	Supply -	⏚
Addressable ZLP2000	Loop +	Loop -	Screen	N/A	N/A	N/A

* Contact installation helpline for advice on system architecture.

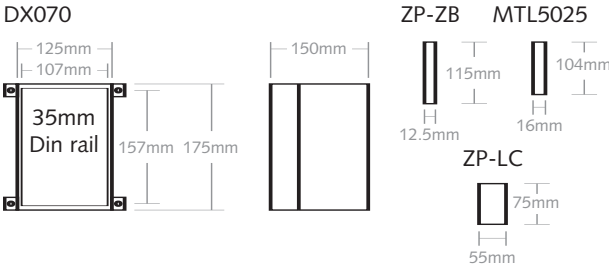
Architecture for loop powered beams (ZLP2000)

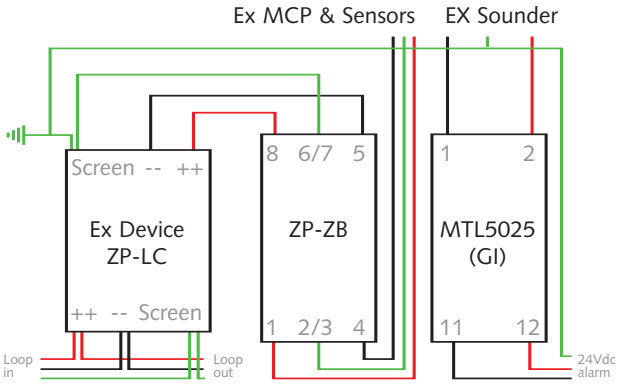


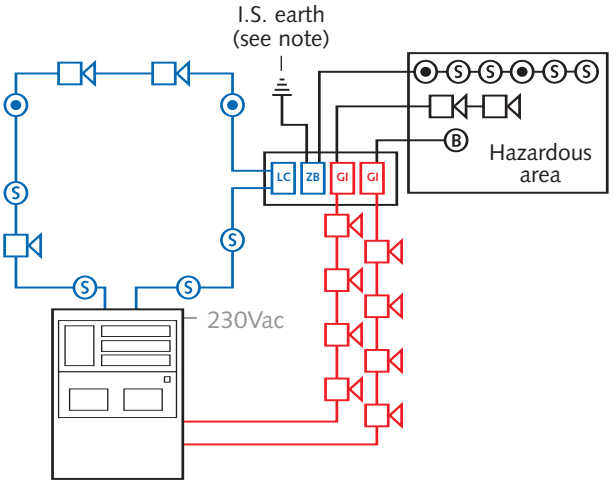
Key	
⊗	Z760 short circuit isolator
↑ Tx	High level transmitter
↑ Rx	Low level controller connected via dedicated 3 core to high level receiver

Notes

- Controllers mounted low level
- Even distribution throughout the loop
- 6 beams maximum with 1km loop length (No loop powered sounders)
- 6 isolators maximum
- All mounted 300mm - 600mm from the ceiling
- See BS siting section
- See isolator section







I.S. earth Note

The zenner barrier requires a dedicated/I.S. earth. In principal this earth cable must not exceed 1 ohm between the barrier and the main incoming earth for the building. In addition to this the cable must be clearly identified by markers. It is also advisable to include a second cable for continuity checks during service visits. Clymac's recommendations are therefore:

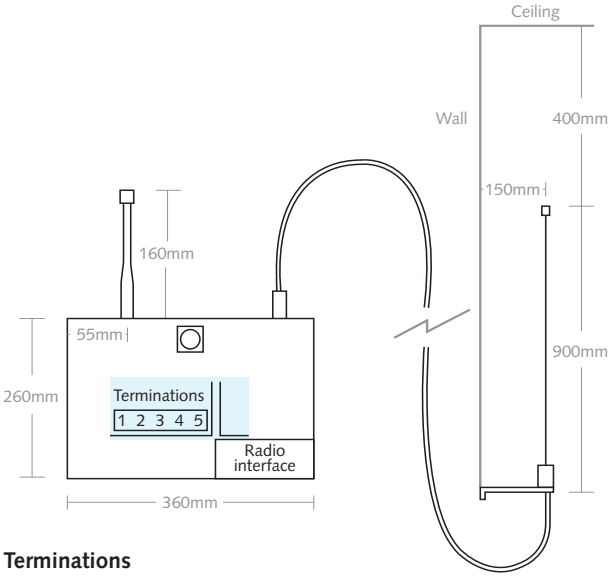
- Two number 4mm earth cables to the main earthing point for the building
- Both cables identified at regular intervals and either side of wall penetrations

Notes

- All barrier equipment must be installed outside the hazardous zone
- One line conditioner can drive eight addresses
- One line galvanic isolator can drive either one I.S. beacon or two I.S. sounders. The output produced by the sounder is relatively low
- This equipment is made from non conductive material. The installer and user should ensure it is not installed in areas that would lead to a build up of electrostatic charge such as areas with high pressure steam
- Cleaning of equipment should be with a damp cloth
- The sounder circuits in the hazardous area not monitored for fault
- Screens used for alarm circuits and detector circuits must not be connected to building earth via conduit boxes or switch boxes
- ATEX Ex II1G

Key

- I.S. conventional sounder
- I.S. addressable sensor
- I.S. addressable manual call point
- I.S. conventional beacon
- Zenner barrier (ZP-ZB)
- 24Vdc alarm sounder
- Addressable sensor
- Addressable manual call point
- Addressable sounder
- Line conditioner (ZP-LC)
- Galvanic isolator (MTL5025)



Terminations

1 Loop +ve's

2 Loop -ve's

3 Loop screen's

4 24Vdc

5 0V

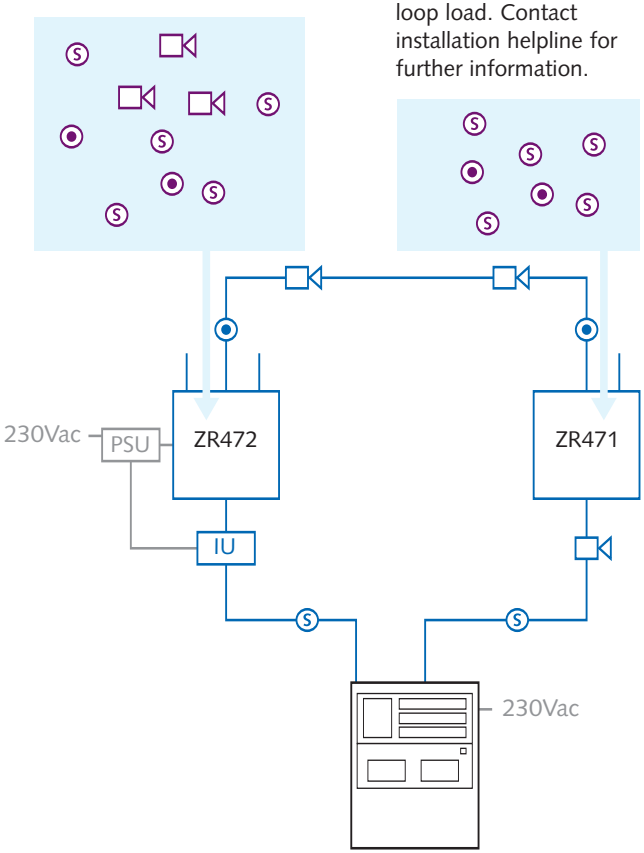
Earth from PSU terminated to 5A connector block.

Radio module

- The module and aerials should not be located within 2m of photocopiers, computers, fax machines and other electrical equipment
- The aerials should not be mounted within 400mm of any metal objects/equipment
- Cables should not run directly behind the aerials
- 10m of coaxial cable is supplied with the whip aerial
- A radio survey is required to finalise the locations of all radio devices and aerials. Please contact the helpline

ZR472 2 way unit i.e sensors, MCP's and sounders. This type of unit must have an auxiliary PSU, as indicated.

ZR471 1 way unit i.e sensors and MCP's only. This type of unit can run without an auxiliary PSU, dependant on loop load. Contact installation helpline for further information.

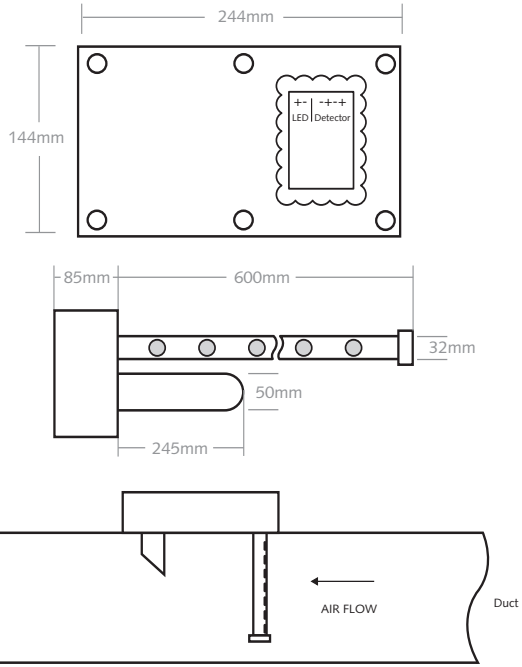


Key

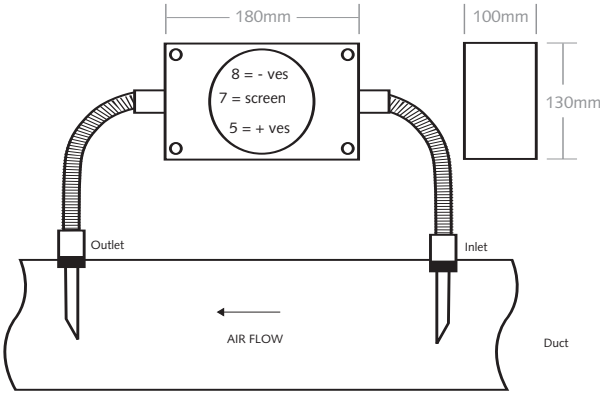
- Wired addressable sounder
- Wired addressable sensor
- Wired addressable manual call point
- Radio addressable sensor
- Radio addressable manual call point
- Radio addressable sounder

Duct detection

Z-DPU Duct Detector



Z-DPU/FH Duct Detector



Clymac use two types of duct detector as shown. Both use the same principles of positive and negative pressure to force a sample through the detector, as such some common rules apply;

1 Three times the width of the duct away from any bend, branch or reducer
2 Designed to work with linear air flow 1m/s - 8m/s
3 The body of the detector must be completely sealed

Z-DPU Duct Detector

1 Designed to be fixed directly to the flat surface of the duct
2 To help achieve a good seal the unit comes complete with; rear gasket, rubber strip between connection/ detection chambers
3 Use knockouts provided for cable entry
4 When modifying the pipes to fit the duct each must be proportionally reduced.The inlet pipe will require a 32mm UPVC end cap (glued on). The outlet must be cut at a 40 degree angle

Z-DPU/FH Duct Detector

1 Designed to be fixed away from the duct
2 To help achieve a good seal the enclosure is designed to be fixed to the surface using the same fixing centres as the lid
3 All cable entries must be sealed with suitable glands
4 Each entry into the duct requires a 32mm hole. This is sealed with the 32mm ribbed grommets supplied
5 Inlet & outlet should be inline and approx 450mm apart

Approved cables

Standard cables

Manufacturer	Name
AEI Cables Ltd (Durham)	Firetec Multicore LSZH
Cavicel SpA	Firecel SR/114 H
Doncaster Cables	Firesure
Draka UK Ltd	Firetuf EMC
Haani Cables Ltd	Firecool
Irish Driver-Harris Company Ltd	Kilflam 2000
Pirelli Cables Ltd	FP200 Gold LSOH
Pirelli Cables Ltd	FP400
Tratos Cavi SpA	Fire-safe TW950
Tyco Thermal Controls Canada Ltd	Pyrotenax PYRO-S
Ventcroft Ltd	Noburn Platinum

Suitable for;

1 Secure networks when cable routes are diverse

2 All other circuits excluding standard networks, where the building has a sprinkler system or;

A) Is less than 30m high; or

B) Is going to be evacuated in 1, 2 or 3 phases; or

C) No people will remain in occupation during a fire.

3 Enhanced cable may also be required as part of a specification or on basis of a risk assessment

4 The Pirelli FP400 cable compiles with BS6387 C, W and Z. At the time of writing no LCPB approved standard or enhanced grade cable with an armour was available. Also, in the absence of a screen the armour should be used. It should be noted that all efforts to avoid interference need to be made and ELV ducts must be used. Limited use only, please contact the help line

5 The Draka Firetuf EMC should be used in applications where a risk of electrical or radio interference is anticipated, such as Airports

Enhanced cables

Manufacturer	Name
AEI Cables Ltd (Durham)	Firetec Enhanced Multicore LSZH
Cavicel SpA	Firecel SR/114 E
Draka UK Ltd	Firetuf Plus
Irish Driver-Harris Company Ltd	Kilflam 3000
Pirelli Cables Ltd	FP Plus
Pirelli Cables Ltd	FP200 Plus Flex
Tyco Thermal Controls Canada Ltd	Pyrotenax Mic (light duty)
Ventcroft Ltd	Noburn Diamond
Wrexham Mineral Cables	Wrexham Mic

Suitable for;

1 Standard networks

2 Should be used on all circuits, where the building has no sprinkler systems and;

A) Is more than 30m high; or

B) Is going to be evacuated in 4 or more phases; or

C) People will remain in occupation during a fire

2 Panel information

ZP3

ZM2

Batteries and enclosures

ZP3-1-240 - Single loop panel

Loops	Height	Width	Depth	Supply	Loop Terminations	24V alarm Terminations
1	540mm	410mm	137mm	230Vac 0.75A	See diagram A	See diagram B

ZP3-2-240 - 2 loop panel

Loops	Height	Width	Depth	Supply	Loop Terminations	24V alarm Terminations
2	540mm	410mm	137mm	230Vac 0.75A	See diagram A	See diagram B

ZP3-4-240 - 4 loop panel

Loops	Height	Width	Depth	Supply	Loop Terminations	24V alarm Terminations
4	540mm	410mm	137mm	230Vac 0.75A	See diagram A	See diagram B

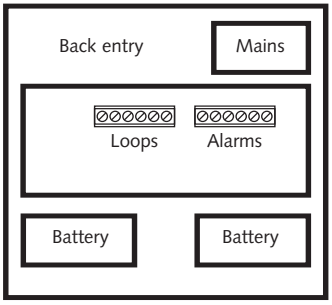
Diagram A
Loop Terminations

Out Loop 1 In
\+ - screen + - screen

Diagram B
24V Alarm Terminations

Sounder 2 Sounder 1
\+ - screen + - screen

Top entry

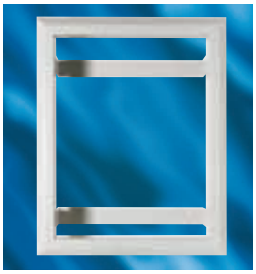


ZP3-FC - Flushing collar

Loops	Height	Width	Depth	Supply
0	647mm	512mm	20mm*	N/A

* Depth of panel once recessed

- Wall cut out size:
  Height 570mm
  Width 440mm
  Depth 120mm



ZP3-RDU-B - Repeat panel

Loops	Height	Width	Depth	Supply
0	220mm	360mm	60mm	24Vdc 90mA

ZM2-1L - Single loop panel

Loops	Height	Width	Depth	Supply	Loop Terminations	24V alarm Terminations
1	465mm	365mm	110mm	230Vac 0.6A	See diagram A	See diagram B

ZM2-2L - 2 loop panel

Loops	Height	Width	Depth	Supply	Loop Terminations	24V alarm Terminations
2	465mm	365mm	110mm	230Vac 0.6A	See diagram A	See diagram B

Diagram A
Loop Terminations

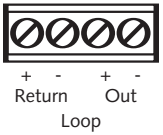
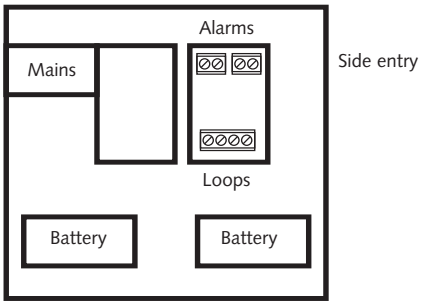


Diagram B
24V Alarm Terminations

Top entry



Side entry

ZM2-RDU-L0 - Surface repeat panel

Loops	Height	Width	Depth	Supply
0	255mm	245mm	75mm	24Vdc 170mA

ZM2-RDU-FL0 - Flush repeat panel

Loops	Height	Width	Depth	Supply
0	255mm	245mm	35mm*	24Vdc 170mA

* Depth of panel once recessed

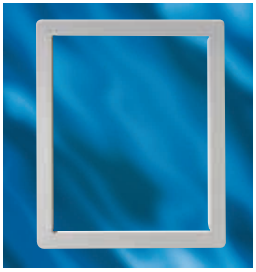
- Wall cut out size:
  Height 219mm
  Width 213mm
  Depth 54mm

ZM-TRIM1 - Flushing collar

Loops	Height	Width	Depth	Supply
N/A	539mm	445mm	40mm*	N/A

* Depth of panel once recessed

- Wall cut out size:
  Height 495mm
  Width 395mm
  Depth 70mm



ZM2-18-E

Loops	Height	Width	Depth	Supply
N/A	400mm	400mm	110mm	N/A

ZM2-24-E

Loops	Height	Width	Depth	Supply
N/A	400mm	400mm	200mm	N/A

Z3-40-E

Loops	Height	Width	Depth	Supply
N/A	250mm	450mm	200mm	N/A

3 Equipment information

Addressable equipment

24Vdc conventional alarm equipment

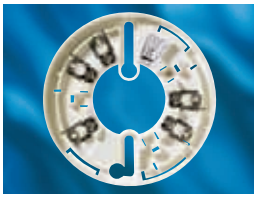
PSU's and transformer rectifiers

Further equipment

Z7SB-1 - Surface sensor base

Diameter	Depth	Loop Positive	Loop Negative	Screen
108mm	18mm	5	8	7

- Unit designed to be fixed to conduit box or similar with fixing centres 50-90mm apart.
- Devices should have two fixings in the conduit box to avoid the base spinning around when the heads are installed.
- Remote LED connection + on 2, - on 3.



Z7RB-1 - Recessed sensor base

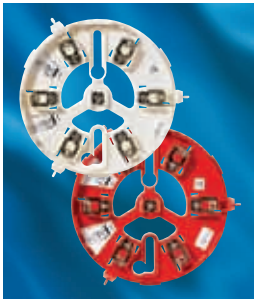
Diameter	Depth	Loop Positive	Loop Negative	Screen
116/138mm	38mm	5	8	7

- Unit designed to be fixed to conduit box or similar with fixing centres 50-90mm apart.
- Devices should have two fixings in the conduit box to avoid the base spinning around when the heads are installed.
- Remote LED connection + on 2, - on 3.
- 120mm clearance hole, ceiling <25mm.

Z755SPB - Sounder 1st fix plate

Diameter	Depth	Loop Positive	Loop Negative	Screen
127mm	47mm	5	6	7

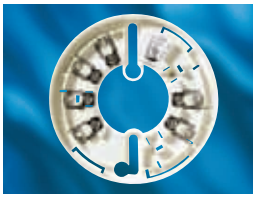
- Unit designed to be fixed to conduit box or similar with fixing centres 50-90mm apart.
- Devices should have two fixings in the conduit box to avoid the base spinning around when the heads are installed.
- Common mounting plate for all addressable sounders. Dimensions shown include base but not horn.
- No remote LED connection. W = white. R = Red.



Z760-SB - Surface isolator base

Diameter	Depth	Loop Positive	Loop Negative	Screen
108mm	18mm	5	6 and 8	7

- Unit designed to be fixed to conduit box or similar with fixing centres 50-90mm apart.
- Devices should have two fixings in the conduit box to avoid the base spinning around when the heads are installed.
- Fit temporary link between 6 and 8 for commissioning.



Z760-RB - Recessed isolator base

Diameter	Depth	Loop Positive	Loop Negative	Screen
116/138mm	38mm	5	6 and 8	7

- Unit designed to be fixed to conduit box or similar with fixing centres 50-90mm apart.
- Devices should have two fixings in the conduit box to avoid the base spinning around when the heads are installed.
- Fit temporary link between 6 and 8 for commissioning.

Z7-IB - Combined sensor base & isolator

Diameter	Depth	Loop Positive	Loop Negative	Screen
109mm	23mm	5	6 and 8	7

- Used instead of detector base (Z7SB-1).

Z710 - Ionisation sensor

Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	52mm*	N/A	N/A	N/A

* Depth dimension excludes base.

- Suitable bases
  Z7SB-1
  Z7RB-1
  Z755BV
  Z755B
  Z7-IB

Z720 - Heat sensor

Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	52mm*	N/A	N/A	N/A

* Depth dimension excludes base.

- Suitable bases
  Z7SB-1
  Z7RB-1
  Z755BV
  Z755B
  Z7-IB

Z730 - Optical sensor

Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	52mm*	N/A	N/A	N/A

* Depth dimension excludes base.

- Suitable bases
  Z7SB-1
  Z7RB-1
  Z755BV
  Z755B
  Z7-IB

Z732 - Optical heat sensor

Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	58mm*	N/A	N/A	N/A

* Depth dimension excludes base.

- Suitable bases
  Z7SB-1
  Z7RB-1
  Z755BV
  Z755B
  Z7-IB
- Only for use on ZP3.

Z832 - Multi sensor

Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	58mm*	N/A	N/A	N/A

* Depth dimension excludes base.

- Suitable bases
  Z7SB-1
  Z7RB-1
  Z755BV
  Z755B
  Z7-IB
- Only for use on ZP3.

ZLP200 - Addressable beam detector

Port	Depth	Height	Width	Diameter
Tx	110mm			60mm
RX	110mm			60mm
Controller	90mm	260mm	210mm	

- See diagram on page 22.

Z-DPU - Duct detector

Height	Width	Depth	Loop Positive	Loop Negative	Screen
144mm	244mm	85mm	+,+	-,-	*

* Terminate screens to 5 Amp connector block or similar

◆ See diagram on page 28.

Z-FH/DPU - Duct detector

Height	Width	Depth	Loop Positive	Loop Negative	Screen
130mm	180mm	110mm	5	8	7

◆ See diagram on page 28.

Z785-3 - Manual call point (MCP)

Height	Width	Depth	Loop Positive	Loop Negative	Screen
93mm	89mm	28mm	1 and 3	2 and 4	*

* Terminate screens to 5amp connector block or similar (not to building earth).

- Can be semi recessed or surface (with Z785B).
- Do not over tighten.
- Do not foul the test key entry at the bottom of the unit.
- Shallow switch boxes OK.
- Supplied with 2 number 30mm M3 screws.

Z785K - Keyswitch manual call point

Height	Width	Depth	Loop Positive	Loop Negative	Screen
93mm	89mm	28mm	Red	Black	*

* Terminate screens to 5amp connector block or similar (not to building earth).

- Can be semi recessed or surface (with Z785B).
- When semi recessing 35mm switch boxes should be used.
- TOK 003 keys used, supplied with 2 number 35mm M3 screws.

Z787 - IP67 manual call point

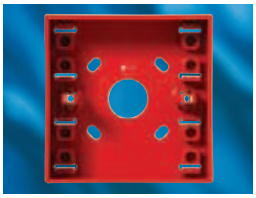
Height	Width	Depth	Loop Positive	Loop Negative	Screen
124mm	124mm	80mm	Left	Right	*

* Terminate screens to 5amp connector block or similar (not to building earth).

- Surface only with surface cable installation. Top and bottom 20mm glands used to retain IP67.

Z785B - Surface box

Height	Width	Depth	Loop Positive	Loop Negative	Screen
89mm	89mm	32mm	N/A	N/A	N/A



Z755HA-2 - Sounder

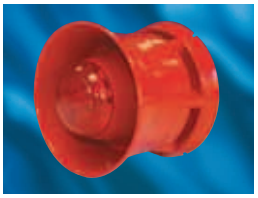
Diameter	Depth	Loop Positive	Loop Negative	Screen
127mm	112mm	N/A	N/A	N/A

- Units available in white or red and are designed to fit to same colour base (Z755SPB). Horns can be locked with removable clip.

Z755HAV-2 - Sounder beacon

Diameter	Depth	Loop Positive	Loop Negative	Screen
127mm	112mm	N/A	N/A	N/A

- Units available in white or red and are designed to fit to same colour base (Z755SPB). Horns can be locked with removable clip.



Z755B - Sounder base

Diameter	Depth	Loop Positive	Loop Negative	Screen
127mm	47mm	N/A	N/A	N/A

- Designed to fit Z755 SPB.

Z755BV - Sounder beacon base

Diameter	Depth	Loop Positive	Loop Negative	Screen
127mm	47mm	N/A	N/A	N/A

- Designed to fit Z755 SPB.

Z755V - Beacon

Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	52mm	N/A	N/A	N/A

- Unit designed to fit into detector surface base (Z7SB-1).

Z755WP - IP65 sounder

Height	Width	Depth	Loop Positive	Loop Negative	Screen
127mm	127mm	135mm	+ve loop	-ve loop	Screen

- Use 20mm glands top, bottom, back or side for IP rating. Use the holes provided for fixing.

Z760 - Isolator

Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	30mm*	N/A	N/A	N/A

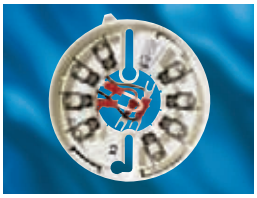
* Depth dimension excludes base.

- For use with Z760-SB or RB (see bases).

Z7-IB - Surface base and isolator

Diameter	Depth	Loop Positive	Loop Negative	Screen
109mm	23mm	5	6 and 8	7

- Used instead of detector base (Z7SB-1).



Z60D

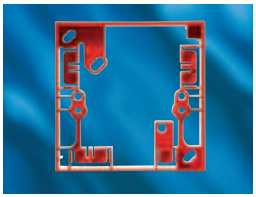
Height	Width	Depth	Loop Positive	Loop Negative	Screen
78mm	85mm	28mm	P+	P-	Screen

- For use with ZDIN/ZDIN2 not in 3rd party equipment.

Z785PT - Manual call point extension

Height	Width	Depth	Loop Positive	Loop Negative	Screen
87mm	87mm	24mm	P+	P-	Screen

- For use with Z60D when an isolator is required inside the manual call point.
- Loop cables must be rear entry.
- It is advisable that this unit is fixed to fully recessed switch box or similar.



Z750 - Output contact

Height	Width	Depth	Loop Positive	Loop Negative	Screen
120mm	120mm	40mm	N/A	N/A	N/A

- Surface mounted with normally 3 number glands required. Entry top or back only.
- Change over contact 30Vdc at 1.5amp.
- For connections see page 14.

Z740 - Interface

Height	Width	Depth	Loop Positive	Loop Negative	Screen
120mm	120mm	40mm	N/A	N/A	N/A

- Surface mounted with normally 3 number glands required. Entry top or back only.
- Monitors clean contacts.
- For connections see page 16.

Z752 - Sounder interface

Height	Width	Depth	Loop Positive	Loop Negative	Screen
120mm	120mm	40mm	N/A	N/A	N/A

- Surface mounted with normally 5 number glands required to terminate to this interface.
- Up to 3 number top entry and the rest must be rear entry via conduit box or similar.
- For connections see page 10.

Z570 - Zone interface

Height	Width	Depth	Loop Positive	Loop Negative	Screen
80mm	120mm	55mm	N/A	N/A	N/A

- Surface only with normally 4 number glands required.
- Best mounted in PSU and left open due to space within the unit for installation.
- For connections see page 17.

Z45D - DIN interface

Height	Width	Depth	Loop Positive	Loop Negative	Screen
78mm	45mm	28mm	P+	P-	Screen

- Designed to fit into ZDIN/ZDIN2.
- Monitors clean contacts.
- For connections see page 15.

Z745 - Mini interface

Height	Width	Depth	Loop Positive	Loop Negative	Screen
55mm	51mm	14mm	L+	L-	Screen

- Designed to fit in to PSU or accessory box and has one hole for fixing purposes.
- Monitors clean contacts.

Z51D - Output contact (230Vac)

Height	Width	Depth	Loop Positive	Loop Negative	Screen
80mm	85mm	42mm	P+	P-	Screen

- Designed to fit into ZDIN/ZDIN2.
- Mains must be segregated from unscreened loop cables within the ZDIN. Care should be taken when lives on different phases are switched creating 415Vac within the ZDIN.
- 230Vac 5amp double change over contacts.
- For connections see page 15.

Z50D - Output contact

Height	Width	Depth	Loop Positive	Loop Negative	Screen
78mm	85mm	28mm	P+	P-	Screen

- Designed to fit into ZDIN/ZDIN2.
- 1amp at 30VDC single change over contact.
- For connections see page 16.

ZDIN - Enclosure

Height	Width	Depth	Loop Positive	Loop Negative	Screen
200mm	255mm	100mm	N/A	N/A	N/A

- 35mm DIN rail = 244mm long.

ZDIN2 - Enclosure

Height	Width	Depth	Loop Positive	Loop Negative	Screen
110mm	180mm	90mm	N/A	N/A	N/A

- 35mm DIN rail = 145mm long (2 number 85mm units will fit, cable entry is top/bottom only).

CLY200 - Sounder

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
93mm	63mm	Common +	1st or 2nd tone	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart. Back entry only.
- Switch setting 00010 provides 1st tone sweeping with 2nd tone continuous.

CLY200D - IP65 sounder

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
93mm	93mm	Common +	1st or 2nd tone	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart. Use designated gland entries (top and bottom) when used externally or IP rating is required.
- Switch setting 00010 provides 1st tone sweeping with 2nd tone continuous.

CLY230 - Bell

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
150mm	80mm	+	-	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart.
- Use internally, entries top and back only.

CLY260 - Sounder base

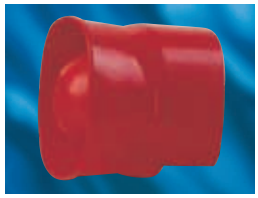
Diameter	Depth	Alarm Positive	Alarm Negative	Screen
112mm	30mm	+	1st or 2nd tone	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart. Back entry only.
- 1st tone sweeping with 2nd tone continuous.

CLY280 - High output sounder

Height	Width	Depth	Alarm Positive	Alarm Negative	Screen
109mm	109mm	95mm	+ve	2nd	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart.
- Use internally, entries top and back only.
- Switch setting 00011000, 2nd tone 988Hz continuous.



CLY407 - Xenon beacon and sounder

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
93mm	121mm	+	1st or 2nd tone	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart.
- Use designated gland entries (top and bottom) when used externally or IP rating is required.
- 1st tone sweeping with 2nd tone continuous.

CLY400 - Xenon beacon

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
93mm	106mm	+	-	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart.
- Use designated gland entries (top and bottom) when used externally or IP rating is required.

CLY408 - LED beacon and sounder

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
93mm	78mm	Common +	1st or 2nd tone	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart.
- Switch setting 00010 1st tone sweeping with 2nd tone continuous.

CLY408D - IP65 beacon and sounder

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
93mm	108mm	Common +	1st or 2nd tone	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Fixing centres 50-60mm apart.
- Use designated gland entries (top and bottom) when used externally or IP rating is required.
- Switch setting 00010 provides 1st tone sweeping with 2nd tone continuous.

ZVOICE-S - Voice sounder

Height	Width	Depth	Alarm Positive	Alarm Negative	Screen
160mm	95mm	70mm	Red	Black	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Unit designed to be fixed to conduit box or simular with fixing centres 50-90mm apart
- Back entry only.

ZVOICE-H - Voice sounder

Height	Width	Depth	Alarm Positive	Alarm Negative	Screen
165mm	180mm	250mm	Red	Black	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- Allows for one cable entry (gland supplied) for remote connection to local conduit box.

ZC/1/3 - Power supply unit

Height	Width	Depth
230mm	230mm	80mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.

ZC/1/7 - Power supply unit

Height	Width	Depth
230mm	320mm	80mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.

ZC/3/12 - Power supply unit

Height	Width	Depth
400mm	400mm	110mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.

ZC/5/18 - Power supply unit

Height	Width	Depth
400mm	400mm	110mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.

ZC/10/12 - Power supply unit

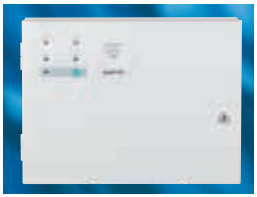
Height	Width	Depth
400mm	400mm	200mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.

ZH/15/3 - Power supply unit

Height	Width	Depth
300mm	400mm	80mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.



ZH/3/7 - Power supply unit

Height	Width	Depth
300mm	400mm	80mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.

ZH/5/24 - Power supply unit

Height	Width	Depth
500mm	450mm	200mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.

ZH/10/40 - Power supply unit

Height	Width	Depth
500mm	450mm	200mm

- Ensure the cables do not enter near the position for the batteries (bottom half). There is generally enough space for small interface equipment such as Z45D, Z570, Z51D.
- All PSU's require un-switched fused spurs connected to radials from the main electrical distribution board.

ZH/20 - Power supply unit

Height	Width	Depth
500mm	450mm	200mm

Batteries in separate box (ZH/68/E)
1 number 2 core 2.5mm cable required.
In addition to this 4 number 2 core 2.5mm cables are required between PSU and panel.

ZH/68/E - Battery enclosure

Height	Width	Depth
500mm	450mm	200mm

ZN/17 - Transformer rectifier (0.375A)

Height	Width	Depth
115mm	155mm	76mm

- Surface mounting with cable top, side or bottom, not back entry.
- All transformer rectifiers require un-switched fused spurs connected to radials from the main electrical distribution board.

ZN/18 - Transformer rectifier (1.5A)

Height	Width	Depth
200mm	255mm	100mm

- Surface mounting with cable top, side or bottom, not back entry.
- All transformer rectifiers require un-switched fused spurs connected to radials from the main electrical distribution board.

ZN/16 - Transformer rectifier (3A)

Height	Width	Depth
200mm	255mm	100mm

- Surface mounting with cable top, side or bottom, not back entry.
- All transformer rectifiers require un-switched fused spurs connected to radials from the main electrical distribution board.

ZN/19 - Transformer relay

Height	Width	Depth
110mm	110mm	58mm

- Surface mounting with cable top, side or bottom, not back entry.
- All transformer rectifiers require un-switched fused spurs connected to radials from the main electrical distribution board.

ZREDCARE/BOX - Redcare enclosure

Height	Width	Depth
245mm	230mm	80mm

- Surface mounted enclosure for 24Vdc RedCare communicator.
- 24Vdc supply from panel/PSU and 1 number 2 core cable for fire.
- Any cable entry.
- Schematic shown on page 6.

Z67 - IP heat detector

Diameter	Depth	Zone Positive	Zone Negative	Screen
98mm	50mm	Red	Blue	*

* Terminate screens to 5amp connector block or similar (not to building earth).

- No base required.
- Flying leads from the back of the detector.
- 70mm fixing centres do not allow fixing to conduit box. Applications where a back box is needed a Red Alert box should be used eg YCR/502.
- For use with Z570 see page 17.

CLY485 - Remote LED

Height	Width	Depth
85mm	85mm	25mm

- LED c/w legend on a single gang switch plate. Terminate +'s to number 2 (middle) and -'s to number 3 (right).

CLY410 - Door holder (24Vdc)

Height	Width	Depth
95mm	95mm	45mm

- 24Vdc unit. Rear entry with conduit box otherwise bottom or side entry only and terminate +ve's and -ve's as shown.
- Rated holding force 112 newtons or 11.5Kg's.
- Schematic shown on page 14.

CLY420 - Door holder (230Vac)

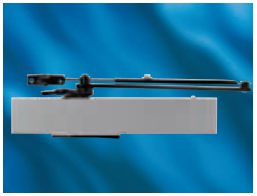
Height	Width	Depth
95mm	95mm	45mm

- 230Vac unit. Rear entry with conduit box otherwise bottom or side entry only and terminate LEN shown.
- Rated holding force 112 newtons or 11.5Kg's.
- Schematic shown on page 15.

996 - Door holder (24Vac)

Height	Width	Depth
64mm	305mm	92mm

- Dimensions relate to main body of the unit only.
- Swing free and 24Vdc magnetic hold open for doors up to 950mm and 60Kg's.
- Fitted on pull side of the door near the hinges and the external switched 24Vdc terminated to the red and black connections.



CLY475B - 230Vac relay

Height	Width	Depth
110mm	110mm	58mm

- Surface mounted top, side or bottom cable entry.
- Relay has a 230Vac coil and double pole change over contacts rated 230Vac 5amp (2.5amp for inductive loads).

ZKEY2 - Keyswitch

Height	Width	Depth
82mm	80mm	55mm

- 2 position surface key switch labelled "plant isolate control" with "normal" and "isolate" as selectable functions using a normally open going closed switch.
- Rated 230Vac 5amp but typically used with Z745, Z740 or Z45D.

CLY495B - 24Vdc relay

Height	Width	Depth
110mm	110mm	58mm

- Surface mounted top, side or bottom cable entry.
- Relay has a 24Vdc coil and double pole change over contacts rated 230Vac 5amp (2.5amp for inductive loads).

Z841 - Class change unit

Height	Width	Depth
110mm	230mm	45mm

- Surface mounted only.
- The unit requires 230Vac and link to Z740/Z45D or to the panel.
- The box will not accept a 20mm gland, cable entry possible top, bottom, left or rear.

Z2000 - Conventional beam detection

Port	Depth	Height	Width	Diameter
Tx	110mm			60mm
RX	110mm			60mm
Controller	90mm	260mm	210mm	

- Additional information from the installation helpline – 0844 412 1777.
- See diagram on page 22.

CLY517 - Conventional IP MCP

Height	Width	Depth
124mm	124mm	80mm

- Used typically in cold stores with interface to addressable loop.
- Surface mounting only with surface cable installation.
- Top and bottom 20mm glands used to retain IP67.

Z440 - Rotating beacon

Diameter	Depth
120mm	200mm

- 230Vac unit mounted in an up right position for IP rating and effective use. The unit is supplied with "o" ring and gasket for IP rating.
- For interfacing/ monitoring requirements call the installation helpline – 0844 412 1777.

UV/IR - Flame detection

Height	Width	Depth
142mm	108mm	82mm

- All information can be provided by the installation helpline – 0844 412 1777.

Z805 - Radio modem

Height	Width	Depth
185mm	114mm	30mm

- All information can be provided by the installation helpline – 0844 412 1777.

ZNLINK - Interface

Height	Width	Depth
110mm	110mm	58mm

- Surface mounting unit that gives a two way signal, over a 2 core cable, between panels.
- One Znlink per panel, maximum 10 panels.
- Six core required between Znlink and local panel.
- Panel specification – Aux 24Vdc supply, none latching zone/class change, spare sounder cct.

Z710Ex-1 - Ionisation sensor

Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	52mm	N/A	N/A	N/A

- See diagrams on page 24 for all information.
- Requires a surface base Z7SB-1.

Z720Ex-1 - Heat sensor

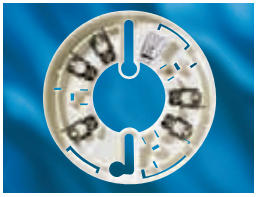
Diameter	Depth	Loop Positive	Loop Negative	Screen
106mm	52mm	N/A	N/A	N/A

- See diagrams on page 24 for all information.
- Requires a surface base Z7SB-1.

Z7SB-1 - Base

Diameter	Depth	Loop Positive	Loop Negative	Screen
108mm	18mm	5	8	7

- See diagrams on page 24 for all information.



Z786Ex-1 - Manual call point

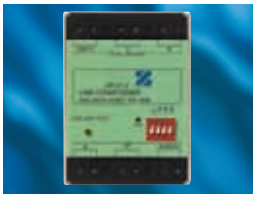
Height	Width	Depth	Loop Positive	Loop Negative	Screen
120mm	120mm	75mm	Left	Middle	Right

- See diagrams on page 24 for all information.
- Surface mounting only top, bottom or side entry.

ZP-LC - Line conditioner

Height	Width	Depth	Loop Positive	Loop Negative	Screen
75mm	55mm	110mm	+	-	Screen

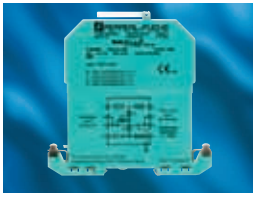
- See diagrams on page 24 for all information.



ZP-ZB - Zenner barrier

Height	Width	Depth	Loop Positive	Loop Negative	Screen
115mm	12.5mm	110mm	N/A	N/A	N/A

- See diagrams on page 24 for all information.



Z740Ex-1 - Interface

Height	Width	Depth	Loop Positive	Loop Negative	Screen
120mm	120mm	55mm	Left	Middle	Right

- See diagrams on page 24 for all information.
- Surface mounting only top, bottom or side entry.

XB8024-S-NR - Beacon

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
140mm	107mm	+	-	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- See diagrams on page 24 for all information.

MTL5025 - Galvanic isolator

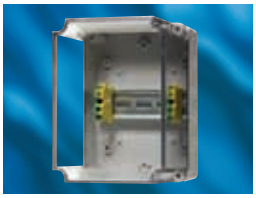
Height	Width	Depth	Loop Positive	Loop Negative	Screen
104mm	16mm	110mm			

- See diagrams on page 24 for all information.

DX070 - Enclosure

Height	Width	Depth	Loop Positive	Loop Negative	Screen
175mm	125mm	150mm			

- See diagrams on page 24 for all information.



DB5 - Sounder

Diameter	Depth	Alarm Positive	Alarm Negative	Screen
93mm	103mm	Common +	1st or 2nd tone	*

* Terminate screens to 5amp connector block or similar (not to building earth).
- See diagrams on page 24 for all information.
- Fixing centres 50-60mm apart. Back entry only.
- Switch setting 00010 1st tone sweeping and 2nd tone continuous.

ZR-471A - 1 way radio module

Height	Width	Depth
260mm	360mm	70mm

- See diagrams on page 26 for all information.
- Exact position determined by site survey.

ZR-472A - 2 way radio module

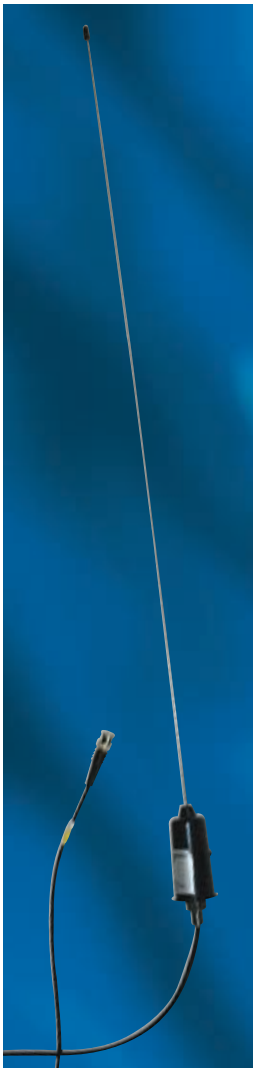
Height	Width	Depth
260mm	360mm	70mm

- See diagrams on page 26 for all information.
- Exact position determined by site survey.

ZR-5500 - Whip aerial

Height	Width	Depth
900mm	25mm	150mm

- See diagrams on page 26 for all information.
- Exact position determined by site survey.



ZR430 - Optical sensor

Diameter	Depth
106mm	52mm*

* Depth of dimension excludes base.
- See diagrams on page 26 for all information.
- Exact position determined by site survey.

ZR420 - Heat sensor

Diameter	Depth
106mm	52mm*

* Depth of dimension excludes base.
- See diagrams on page 26 for all information.
- Exact position determined by site survey.

ZR430-ES - Optical sensor/sounder

Diameter	Depth
150mm	85mm

- See diagrams on page 26 for all information.
- Fixings centres 60-80mm apart.
- Exact position determined by site survey.

ZR420-ES - Heat sensor/sounder

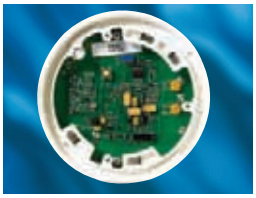
Diameter	Depth
150mm	85mm

- See diagrams on page 26 for all information.
- Fixings centres 60-80mm apart.
- Exact position determined by site survey.

ZR401 - Sensor base

Diameter	Depth
115mm	40mm

- See diagrams on page 26 for all information.
- Fixing centres 40, 50 or 60mm apart.
- Exact position determined by site survey.



ZR485 - Manual call point

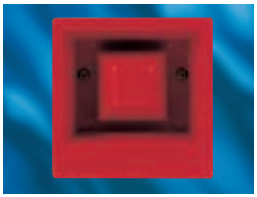
Height	Width	Depth
89mm	89mm	62mm

- See diagram for further information on page 26.
- Surface only
- Remove the black centre disc in the box.
- Fixings 35/50mm apart.
- Exact position determined by site survey.

ZR454 - Sounder

Height	Width	Depth
85mm	85mm	95mm

- See diagrams on page 26 for all information.
- Remove batteries to fix, note battery polarities.
- Exact position determined by site survey.



ZR454XN - Sounder/beacon

Height	Width	Depth
180mm	85mm	95mm

- See diagrams on page 26 for all information.
- Remove batteries to fix, note battery polarities.
- Exact position determined by site survey.

ZR4-XN - Beacon

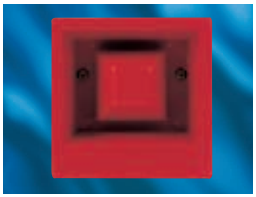
Height	Width	Depth
180mm	85mm	95mm

- See diagrams on page 26 for all information.
- Remove batteries to fix, note battery polarities.
- Exact position determined by site survey.

ZR454WP - IP sounder

Height	Width	Depth
85mm	85mm	95mm

- See diagrams on page 26 for all information.
- Remove batteries to fix, note battery polarities.
- Exact position determined by site survey.



ZR451 - I/O unit

Height	Width	Depth
250mm	160mm	40mm

- See diagrams on page 26 for all information.
- Bottom entry only.
- Switch rated low voltage DC only.
- Input requires 2K2 EOL and short cct for fire.
- See base for fixings.
- Exact position determined by site survey.

4 System commissioning

To ensure the system commissioning runs as smoothly as possible we would request that the following points have been observed prior to booking the commissioning visit.

1 7 working days notice for commissioning visit.

2 As-fitted drawings marked up with address numbers.

3 Text label sheets complete at the time of booking the commissioning.

4 Any specific system configuration identified.

5 Loop complete and tested for continuity on both cores and screen.

6 No cable faults exist (short cct between cores, cores to screen or cores to building earth).

7 Cables terminated to the panel have each core correctly flagged.

8 Access equipment and operator available for our use.

9 Zone charts require 3 weeks notice and a disk copy of the AutoCad drawings.

10 All equipment is fitted that is directly connected to the cable installation i.e. sounder 1st fix plates, sensor base, MCP's interfaces. All plug-in devices that require addressing will be fitted by Clymac.

11 Free use of welfare facilities, light, power etc.

12 Clymac endeavour to work with personnel on site to overcome most problems. Assistance may be required to fix cable faults, fitting sensors etc, drive access equipment and connect mains.

5 Contact details

Installation support helpline
0844 412 1777

Book commissioning
01509 232651

Office fax
01509 232665

Email
commissioning@clymac.co.uk

Web
www.clymac.co.uk

Clymac